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## A CROSS-SECTIONAL CLINICOMYCOLOGICAL STUDY OF TINEA CORPORIS IN AN INDIAN TERTIARY CARE HOSPITAL

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### Abstract



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Tinea corporis, a fungal infection of the skin, hair, and nails, has become a significant public health concern in recent years. This study aimed to assess the frequency of various fungal species associated with Tinea corporis and explore potential correlations with clinical features. A total of 311 cases from a tertiary care facility in India participated in this cross-sectional study. Samples from skin, hair, and nails were analyzed using fungal cultures and potassium hydroxide (KOH) mounts. Most patients were male and in their third decade of life, with 13% having Tinea corporis et cruris and 48.8% reporting a positive family history. Trichophyton mentagrophytes was the most commonly isolated species (80.92%), followed by Trichophyton rubrum (14.54%). No significant correlation was found between clinical characteristics, such as body surface area or illness duration, and the type of fungus identified.

### Keywords:

Clinico-mycology,  
culture,  
Tinea corporis,  
KOH,

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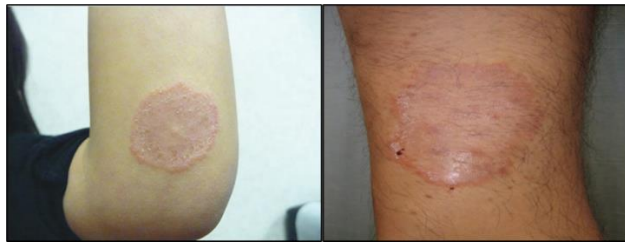
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### INTRODUCTION

A superficial dermatophyte infection of the skin, tinea corporis, sometimes referred to as "ringworm," is not the same as tinea manuum, tinea pedis, scalp capitis, bearded areas, face, groin, or nails (onychomycosis or tinea unguium). The three genera of dermatophytes that cause tinea corporis—Trichophyton, which infects skin, hair, and nails; Microsporum, which infects skin and hair; and Epidermophyton, which infects skin and nails—are the most common sources of the condition. Depending on whether their primary source is soil, animals, or humans, respectively, dermatophytes are classified as either anthropophilic, zoophilic, or geophilic. Because

tinea corporis is a widespread fungal infection that can mimic many other annular lesions, doctors need to be knowledgeable about the etiology and management of this condition [1].



**Figure 1 Tinea Corporis on Arm**

### **ETIOLOGY [2]:**

*Microsporum canis*, *Trichophyton rubrum*, and *T. tonsurans* are the most common causes of tinea corporis. By a significant margin, *T. rubrum* is the most frequent cause of tinea corporis in North America and the world. *T. tonsurans* is frequently the cause of tinea corporis after tinea capitis. However, *M. canis* is frequently the source of tinea corporis that results from intimate contact with dogs or cats. Additional organisms that cause harm are *T. mentagrophytes*, *T. verrucosum*, *T. violaceum*, *T. concentricum*, and *T. interdigitale*. *M. gypseum*, *M. audouinii*, and *Epidermophyton floccosum*. Recently, *T. interdigitale* has supplanted *T. rubrum* as Southeast Asia's most frequent cause of tinea corporis. Examples of rare causal organisms include *T. erinaceid*, *T. equinum*, *T. simii*, *T. schoenleinii*, *Nannizzia gypsea*, *N. nana*, *M. gallinae*, and *M. fulvum*.

### **EPIDEMIOLOGY:**

The most frequently occurring skin disorder is Tinea corporis. Though it can happen anywhere, tropical areas are where tinea corporis is most commonly reported. There is an approximate 10- to 20% lifetime risk of developing tinea corporis. Post-pubertal children and young adults are most commonly affected by tinea corporis. In the newborn era, there have been a few documented examples. The dominant gender is not present. It is possible for humans to contract the disease from contaminated soil, contaminated insects, contaminated animals (especially domestic dogs and cats), or from intimate contact with an affected person. Onychomycosis, tinea capitis, and tinea pedis are a few examples of dermatophyte infection sites from which an infection may spread. The most prevalent method of transmission is by

home family members; spores shed by an infected household member frequently infect children. There is also a chance of autoinfection by dermatophytes in other body parts. Sharing towels and clothes, wearing occlusive clothing, and a wet, warm environment contribute to the fungus's spreading ability. Personal history of Tinea corporis (e.g., tinea capitis, tinea pedis, tinea cruris, and tinea unguium), xerosis, ichthyosis, low  $\beta$ -defensin four levels, immunodeficiency, diabetes mellitus, pets in the home, hyperhidrosis, and genetic predisposition (particularly, tinea imbricata) are among the risk factors [3].

### **PATHOGENESIS**

Certain dermatophytes, like *T. rubrum*, have mannans in their cell walls that have immune-inhibitory qualities. As a result, the fungus can remain on the skin and not be shed before invading the skin. The causative fungus can produce keratinases, which penetrate keratinized tissue; serine-subtilisins, which break down protein by initiating a nucleophilic attack on the peptide bond through a serine residue at the active site; and proteases, which break down keratin. This allows the fungus to enter the porous layer of the skin and spread outward. Usually restricted to the skin's exterior, non-living, cornified layers, infections are cutaneous. The fungus cannot infiltrate deeper tissues in healthy immunocompetent hosts because of human defense mechanisms such as complements, polymorphonuclear leukocytes, and serum inhibitory factor activation. The fungal infection causes an increase in epidermal cell proliferation, which leads to scaling of the active border [4].

### **DIAGNOSIS**

In most cases, tinea corporis can be identified clinically if the lesion is typical. Among the characteristics is a well-defined, exact definition of an erythematous, annular, scaly plaque with a raised leading edge, scaling, and central clearing on the body. The diagnosis may occasionally be challenging because of previous usage of drugs like corticosteroids or calcineurin inhibitors. A practical and non-invasive diagnostic method is dermoscopy. Dermoscopic outcomes in cases of tinea corporis include diffuse erythema, dotted vessels with peripheral to patchy distribution, white scales with peripheral distribution, "moth-eaten" scale, peeling in an outward direction,

brown spots surrounded by a white-yellow halo, follicular micro pustules, wavy hair, and broken hair. These alterations might still be observed even when calcineurin inhibitors or topical corticosteroids are used. Confocal microscopy for Reflectance is an additional helpful diagnostic technique. In patients with tinea corporis, Reflectance confocal microscopy reveals fungal hyphae branching over an erythematous circular scaly patch. Examining the affected area with a wood light is futile because tinea corporis lesions usually do not glow under one [5].

If required, the diagnosis can be verified by microscopic analysis of skin scrapings from the lesion's active border prepared as potassium hydroxide (KOH) wet-mount preparations. To keep the specimen dry and stop any contaminated germs from growing, it is recommended that the skin scrapings be carried in pre-sterilized black chart paper. A 10–20% KOH drop is added to the scrapings on a microscopic slide to perform the test. The material is slowly heated to accelerate the decomposition of the squamous cells. The epithelial tissue is dissolved by the KOH, revealing readily visible septate hyphae that may or may not contain arthroconidiospores (Figure 2). Dimethyl sulfoxide added to KOH could enable faster analysis without heating. The gold standard for diagnosing Tinea corporis is fungus culture, mainly when the diagnosis is unclear, and results from other tests are ambiguous if the infection is severe, widespread, or resistant to therapy [6].

The identification of fungal species can be aided by fungal culture. On the other hand, fungal culture is costly, and results are typically obtained within 7–14 days. It could take up to four weeks to get results for some species.

The most often used culture media is the Sabouraud peptone–glucose agar, which contains 4% peptone and 1% glucose. Since Sabouraud peptone-glucose agar does not include antibiotics, bacterial contamination may be able to increase. Conversely, antibiotics are present in both dermatophyte test medium and mycoses agar. Antibiotics aid in inhibiting the development of bacterial species that could contaminate the culture. If the results of the investigation are not conclusive, then a ribosomal DNA internal transcribed spacer-based PCR restriction fragment length polymorphism method or a

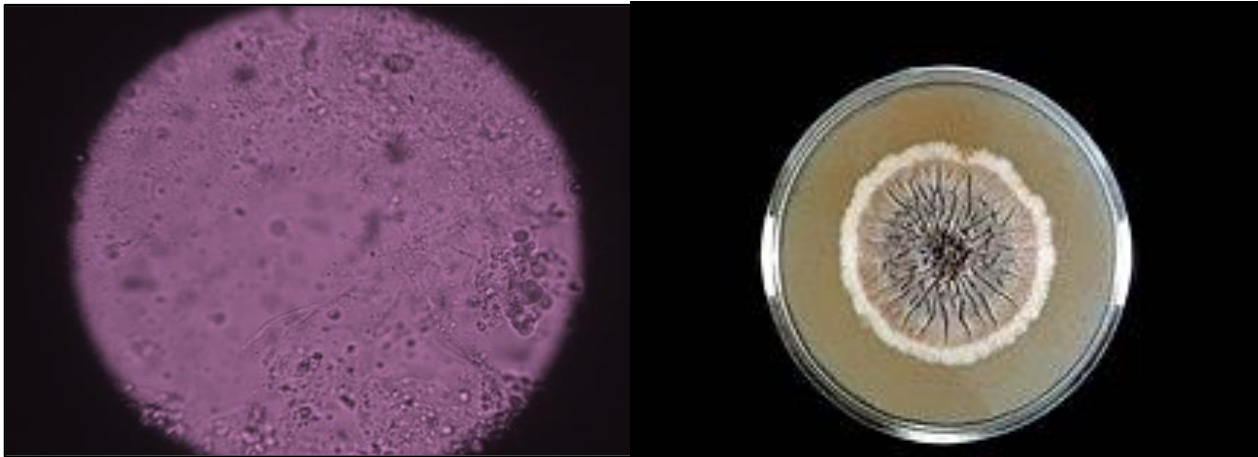
polymerase chain reaction (PCR) assay for fungal DNA may be considered for fungal identification in academic settings for research purposes [7].

Peripheral white scales, "moth-eaten" scale that peels off, brown areas surrounded by a halo of white and yellow, follicular micro pustules, wavy hair, and damaged hair are some of the symptoms that are peripheral to patchy in distribution. These alterations might still be observed even when calcineurin inhibitors or topical corticosteroids are used. Confocal microscopy for Reflectance is an additional helpful diagnostic technique. In patients with tinea corporis, Reflectance confocal microscopy reveals fungal hyphae branching over an erythematous circular scaly patch. Examining the affected area with a wood light is futile because tinea corporis lesions usually do not glow under one [8].

If required, the diagnosis can be verified by microscopic analysis of skin scrapings from the lesion's active border prepared as potassium hydroxide (KOH) wet-mount preparations. To keep the specimen dry and stop any contaminated germs from growing, the skin scrapings should be transported in pre-sterilized black chart paper. To conduct the test, a 10–20% KOH drop is put into the scrapings on a microscopic slide. To hasten the squamous cell decomposition, the specimen is slightly heated. When KOH dissolves the epithelial tissue, septate hyphae with or without arthroconidiospores can be seen clearly (Figure 2). Dimethyl sulfoxide added to KOH could allow for a quicker, non-heated inspection [9].

The most reliable method for diagnosing Tinea corporis is fungus culture, mainly when other test results are ambiguous, the infection is extensive, severe, or resistant to therapy. Fungal species can be distinguished with the aid of fungus culture. Fungal culture is costly; results often take seven to fourteen days. Results for certain species could take up to four weeks. The most often used culture media is the Sabouraud peptone–glucose agar, which contains 4% peptone and 1% glucose. Since Sabouraud peptone-glucose agar does not include antibiotics, bacterial contamination may be able to increase.

Conversely, antibiotics are present in both dermatophyte test medium and mycoses agar. Antibiotics aid the growth of bacterial species that can contaminate the culture. If the results of the



**Figure 2 Under a microscope, skin scrapings in 10% KOH revealed many branching fungal hyphae**

investigation are not conclusive, then a ribosomal DNA internal transcribed spacer-based PCR restriction fragment length polymorphism method or a polymerase chain reaction (PCR) assay for fungal DNA may be considered for fungal identification in academic settings for research purposes [10].

#### **TREATMENT**

**Non-pharmacologic measures:** Patients should wear light, loose-fitting clothing because fungus prefers warm, humid conditions. It is essential to keep the skin dry and clean. Medications Topical antifungals are the conventional treatment for tinea corporis, and research has shown that these are preferable to placebos. Topical antifungal medication applied to the lesion and at least 2 cm beyond the lesion once or twice daily for 2-4 weeks is usually effective in treating localized or superficial tinea corporis. Azole, benzylamine, ciclopirox, and tolnaftate are commonly used topical antifungal medicines. In this context, nystatin—a medication that effectively treats *Candida* infections—is ineffective in treating tinea corporis. There was no discernible variation in the antifungals' effects on the outcome of mycologic cure after treatment, according to a 2013 meta-analysis of 65 studies (including head-to-head and trials using a common comparator) involving 14 topical antifungals [11].

Antifungal creams are usually well tolerated topically. Except in rare cases of contact dermatitis, side effects are infrequent. Poor adherence, medication resistance, auto-inoculation, close contact reinfection, and misdiagnosis are common

reasons why treatments fail. Randomized control trials support the effectiveness of systemic treatment with oral antifungal drugs. For the treatment of tinea corporis, oral antifungal agents are used: terbinafine granules fluconazole (children: 6 mg/kg once weekly [maximum: 200 mg once weekly]; adults: 200 mg/day); terbinafine tablets (children: 10–20 kg, 62.5 mg/day; 21–40 kg, 125 mg/day; >40 kg, 250 mg/day); and (children: 35 kg, 250 mg/day). These oral antifungal drugs are all used for the treatment of tinea corporis.

The patient's response determines the course of treatment. Treatment typically lasts two to four weeks, but in resistant cases, it may take longer. Due to the possibility of hepatotoxicity, adrenal insufficiency, and medication interactions, oral ketoconazole should be avoided. Oral griseofulvin is less effective, has more side events, and necessitates a longer course of therapy. It is not accessible in many countries, including Canada. For this reason, oral griseofulvin is not the recommended drug for treating tinea corporis. Oral and topical antifungal medication used in combination may improve the cure rate.

The prevalence of tinea corporis resistant to terbinafine treatment has increased recently.

Terbinafine inhibits the enzyme squalene epoxidase from producing ergosterol, an essential fungal cell wall component. The squalene epoxidase target gene (SQLE) has had point mutations primarily responsible for terbinafine resistance. DNA sequencing of the fungal isolate's SQLE gene can be used to identify the point

mutation. Contributing factors may also include subtherapeutic dose, treatment noncompliance, and misuse of over-the-counter topical medications, including corticosteroids and antifungals [12].

**Medical management with antifungals [13]**

Numerous conventional agents, such as Whitfield's ointment and Castellani's paint (Carbol fuchsin solution), are still in use despite lacking any particular antibacterial properties. The effectiveness of these remedies has not been thoroughly measured. Table 1 presents a classification of antifungals that are often used. Systemic therapy should be explored when many topical medicines are used to treat lesions that cover a substantial surface area of the body but do not improve. A straightforward comparison study comparing systemic and topical treatment in combination vs systemic antifungal medication administered alone does not yet exist.

**Table 1 Classification of antifungal drugs according to their composition**

Antifungal class	Examples
Antibiotics Polyenes	Natamycin, nystatin, and amphotericin B
Heterocyclic benzofuran	Griseofulvin
Antimetabolite Azoles	Flucytosine
Imidazoles	Topical clotrimazole, sertaconazole, luliconazole, econazole, miconazole, bifonazole, fenticonazole, oxiconazole, tioconazole, berconazole, and eberconazole whole-body ketoconazole
Triazoles	Itraconazole, voriconazole, posaconazole, isavuconazole, ravuconazole, pramiconazole, albaconazol, fluconazole (also topical)
Allylamines	Terbinafine, butenafine, naftifine
Echinocandins	Caspofungin, anidulafungin, micafungin, aminocandin

The pharmacokinetics of topical medicines are superior to those of systemic drugs. The

combination should have greater mycological clearance than systemic and topical treatments alone. A combination of various groups will cover a larger area and stop resistance from growing. When drugs are used for shorter periods at higher doses, resistance is less likely to develop than when they are taken for more extended periods at lower doses. Higher dosages of a drug with keratophilic and lipophilic properties will have a reservoir effect and improve mycological clearance.

**Indication of systemic antifungals in Tinea corporis [14]**

Tinea capitis  
Nails affected by Tinea  
Tinea that affects many bodily regions at once, such as corporis and Tinea cruris or pedis and  
Tinea Cruris  
Tinea corporis is where the lesions are extensive. But there isn't a recognized definition of a widespread illness.

When the foot's sole, heel, or dorsum are significantly affected or persistent, bothersome blistering, one may have tinea pedis.

**PREVENTION**

Avoid getting near an infected person or exchanging clothing and other personal items.

**PROGNOSIS**

If patients follow their treatment plan and receive the proper care, the prognosis for localized tinea corporis is excellent. If treatment is stopped too soon without eliminating the fungus, recurrence might happen. If a reservoir of infection (tinea pedis, tinea capitis, onychomycosis) is present, reinfection may occur [15].

**MATERIALS AND METHODS**

**Study design**

From June 2024 to August 2024, a cross-sectional study was conducted in a tertiary care center at a hospital.

**Inclusion criteria**

The study included all individuals with a clinical diagnosis of tinea corporis.

**Table 2 Recommended dosage for Tinea corporis using several systemic antifungals**

Condition	Drug	Dose (oral)	Duration
T. corporis	Terbinafine	250 mg once a day, or 3-6 mg/kg each day	2-3 weeks
	Itraconazole	200 mg/day	1-2 weeks
	Fluconazole	150-300 mg/week	3-4 weeks
	Gresiofulvin (micro size) (ultra-micro size)	Daily dose: 500 mg (10–20 mg/kg). Every day, 300–375 mg (5–10 mg/kg)	2-4 weeks

### Sample size

A 90% confidence interval and 10% margin of error were used to determine the sample size, which was 292, given the disease's weekly prevalence of roughly 60 individuals. The institute's research ethics committee gave the study its approval.

### Exclusion criteria:

Patients whose skin scraping samples tested negative for KOH and fungal culture and those whose cultures revealed growth other than tinea corporis were not allowed to participate in the study.

### METHODOLOGY

Age, gender, length of illness, kind of episode (first or recurring), family history, and history of previous treatment (topical and systemic) were all included in the detailed demographic information and history that was recorded.[16] Each patient underwent a comprehensive examination, during which the various areas of involvement, such as affected body surface area, concomitant scalp involvement, and nail involvement, were noted. 10% of the body's surface area is considered a severe type of disease, according to the ECTODERM research. The participation region was measured by measuring the area of the outstretched palm, which measured 1% of the body's surface area from the wrist to the tips of the fingers. Based on the duration of the three-month illness, the cases were divided into three groups.

### Sample collection

Before removing the specimen, 70% alcohol was used to disinfect the suspected area and let it evaporate. When skin involvement was present, scrapings were taken from the lesion's edge while

the sterile surgical blade (No. 15) was held at a 90-degree angle to collect the blunt end. If hair was involved, the same scalp scrapings were taken, and some of the impacted hair strands and their roots were forceps epilated. Nail clippings and undersurface scrapings were taken in suspected cases of onychomycosis. Samples were taken from the site with the highest activity level, where numerous sites were involved. Every specimen was split into two sections: one for the fungal culture and the other for the KOH mount. Fungal components were searched for through direct microscopic inspection using 10% KOH for skin, 20% for hair, and 40% for nails.

### Isolation of dermatophyte on culture

Following injection, the material was placed onto two sets of SDA (Sabouraud's dextrose agar) slopes; one set included chloramphenicol and cycloheximidine, while the other set contained only chloramphenicol. The tubes were placed in a biological oxygen demand incubator at 25°C. Before being classified as unfavorable, they were watched for 4-6 weeks.

### Species identification

Growth rate, colony morphology, and lactophenol cotton blue mount were used for speciation. When morphological identification was in doubt, biochemical tests, including the urease test and slide culture, were carried out [17].

### Statistical analysis

The statistical analysis was conducted utilizing IBM SPSS Statistics for Windows, version 23.0 (IBM Statistical Package for the Social Sciences, IBM Corp., Armonk, NY). Every analysis was performed on data that had a nonparametric distribution. The association between the qualitative data was determined using the Chi-square test. The means of quantitative data with

various clinical diagnosis kinds and species were compared using analysis of variance [[18].

**RESULTS**

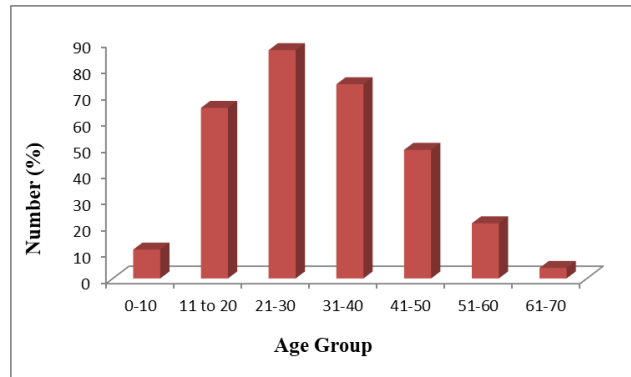
100 of the 450 patients who were screened were rejected for culture. A total of 350 patients fulfilled the inclusion requirements; 39 patients were not included because samples from 9 patients showed *Candida* species in culture, and 22 patients showed no growth in the culture medium or fungal components in KOH mount. As a result, 311 patients' results were examined. The patient's average age was 31.35 ± 13.31 years. The third decade had the highest percentage of patients (27.8%). One-year-old patients were the youngest. The ratio of men to females was 1.22:1. Table 3 shows the distribution of age and gender for the different instances. The illness persisted for an average of 4.14 months. Fourteen percent of the patients had been sick for less than a month when they first arrived. 48.8% of cases had a positive family history. Twelve (3.85%) patients reported using topical antifungal preparations, 68 (21.7%) patients reported using over-the-counter medications containing steroids, and 72 (23.1%) patients reported using indigenous preparations and "preparations containing coal tar, anthralin, and salicylic acid.

Both single and many sites of involvement with tinea corporis were seen in our patients. However, 77.17% of individuals showed multiple site involvement at presentation. Following tinea corporis (27%) and tinea cruris (15.1%), the most frequent clinical variant found was tinea corporis with tinea cruris (39.5%). Each patient had tinea corporis with tinea manuum; Tinea corporis with tinea barbae, and tinea corporis with tinea unguium. A mean body surface area participation of 3.8%±3.81% was found in our investigation. 5.4% of patients had a high degree of body surface area involvement, while the majority (66.8%) had a modest involvement.

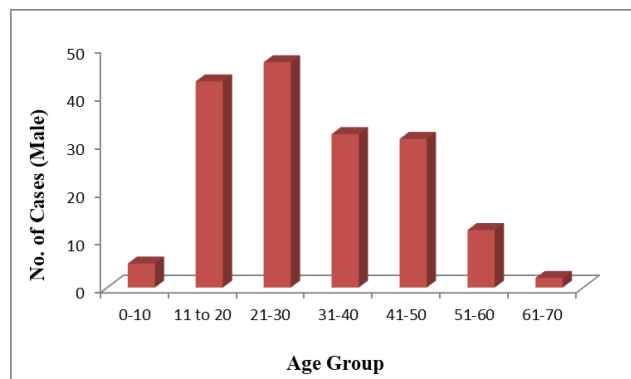
**Table 3 Distribution of cases by age and gender**

Age group (in years)	Number, n (%)	Male	Female
0-10	10 (3.4)	4	7
11-20	64 (20.7)	42	23
21-30	86 (27.7)	46	41

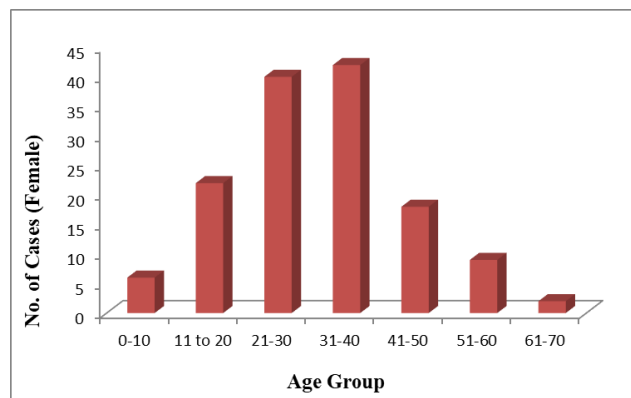
31-40	73 (23.5)	31	43
41-50	48 (15.6)	30	17
51-60	20 (6.3)	11	8
61-70	3 (1.2)	3	3



**Figure 3 Age group and no. of percentages of various cases**



**Figure 4 Age group and No. Of Male Cases**



**Figure 5 Age group and No. Of Female Cases**

Three hundred four cases, or 97.7%, had positive KOH mount results for fungal elements. In 303 instances, septate hyphae with thin hyaline branches were observed, and in one case, a chain of arthrospores was discovered, which, upon culture, revealed *Trichophyton mentagrophytes*. According to the study, 73.63% of the patients had

positive dermatophyte species cultures. Two hundred twenty-four individuals (73.68%) out of the 304 KOH-positive cases had positive fungal culture results. *T. mentagrophytes* accounted for 79.91 percent of the grown organisms, with *T. rubrum* (13.53%), *T. tonsurans* (4.36%), *T. verrucosum* (0.9%), *Epidermophyton floccosum* (0.9%), and *Microsporum audouinii* (0.4%)

age range live in shared housing and don't practice good personal hygiene or sharing of toilets could be one reason for the rise in incidence. There is a male preponderance in the majority of studies, including ours. This region of India has year-round warmth and is located directly south of the Tropic of Cancer. In the summer, the maximum is around forty degrees Celsius, with an average

**Table 4 Different clinical forms of Tinea corporis: KOH and culture status**

Clinical type	Culture +ve	Culture -ve	KOH +ve	KOH -ve
Tinea corporis	24	60	82	2
Tinea corporis, Tinea barbae	1	0	1	0
Tinea corporis, Tinea cruris	28	95	121	2
Tinea corporis, Tinea cruris, Tinea barbae	0	2	2	0
Tinea corporis, Tinea cruris, Tinea faciei	4	8	12	0
Tinea corporis, Tinea cruris, Tinea manuum	4	2	6	0
Tinea corporis, Tinea faciei	4	12	16	0
Tinea corporis, Tinea manuum	0	1	1	0
Tinea corporis, Tinea unguium	0	1	1	0
Tinea cruris	12	35	45	2
Tinea cruris, Tinea faciei	0	2	2	0
Tinea faciei	2	9	10	1
Tinea manuum, Tinea unguium	1	0	1	0
Tinea pedis	0	4	4	0
Total	80	231	304	7

following in order of frequency of isolation. Different clinical forms of Tinea corporis and its KOH and culture status. *T. rubrum* was isolated from one of the two Tinea unguium cases. In contrast, the other did not develop a culture. According to the study, the number of sites (P value = 0.53) and the type of organism with body surface area involved (P value = 0.87) did not significantly correlate. Furthermore, a statistical analysis revealed no meaningful correlation between the type of organism and the length of the sickness. The p-value is 0.67. We could not discover any correlation between a particular organism and patients who had a positive history of topical steroid use or who had family members who were afflicted. No correlation was observed between the clinical forms of Tinea and any fungal species.

## DISCUSSION

In this study, the patients aged 21 to 30 had the highest Tinea corporis. A comparable peak was noted for this age group. Peak, though, is in the second decade. The fact that most people in this

temperature of about 30. Men are more likely to be exposed to an environment favorable for the formation of the fungus since tinea corporis is primarily a tropical dermatosis, which is made worse by high humidity and increased outdoor activity.

Most patients (42.76%) in our study presented within a month of the disease's onset, whereas 17% of patients, in contrast to the study, appeared within a month of the disease's onset, and the highest proportion of patients presented after three months of treatment. Due to the ongoing fungal pandemic and growing public knowledge of the illness, many patients present earlier in the disease.

We found positive family history in 48.8% of cases comparable to the observation. (48%) noted a comparatively lower figure of 16.6% and 21%, in that order. One possible explanation for many patients with a good family history is that family members share meals and use the same washing machine.



The bulk of the 21.7% of cases in our study who used over-the-counter (OTC) drugs containing steroids did so without proper consultation, having obtained the drugs from a local pharmacy. Numerous writers have noted that OTC drug use is comparatively more common in some instances. For example, 77.94% cases, 70.6% cases, and 63% cases. In our study, the percentage of cases that used topical antifungal preparation was 23.1%; in the other studies, the corresponding percentages were 5.7%, 47%, and 7.35%. At the time of presentation, 3.85% of the patients utilized native preparations and "preparations containing coal tar, anthralin, and salicylic acid. A mixture including salicylic acid, lactic acid, dithranol, coal tar, and urea was used in 14.7% of instances, while topical antifungal medication was used in 7.35% of cases. The above outcomes may be due to the topical steroid formulations' easy availability and lack of appropriate medical consultation. Patients are encouraged to use combination creams for extended periods because they are inexpensive and cause inflammatory symptoms to diminish quickly after application.

Similar to the study's findings, *Tinea corporis et cruris* was the most common form of involvement seen in the majority of our patients' multiple-site presentations. Nearly all cases had KOH positivity, with KOH positivity seen in 97.7% of the cases. KOH-positive results have been inconsistently observed in other research. 79.58%, 55.18%, 79.6%, and 55.21%. Although a significantly higher figure was observed, i.e., 85.9%, about 73.68% of KOH positive instances generated positive results for fungal culture, similar to the reports.

Our investigation found The KOH test to be 20.79% specific and 96.96% sensitive, which used culture as the gold standard for diagnosis. They did note, however, a somewhat greater specificity (31.8%) for this test. Before 2011, *T. rubrum* was the most often found isolate, according to most investigations. Fungal species differ from one place to another and may evolve. In this investigation, *T. rubrum* and *T. mentagrophytes* were most often obtained from culture. Comparable outcomes were noted.

Given that *T. mentagrophytes* is the primary cause of disease in most individuals in our study, there may be a risk that the illness will become

recurring or resistant to treatment. After conducting mycological and molecular analyses on 201 patients from different regions of our nation, they discovered that *T. mentagrophytes* was the most common isolate. They also discovered that a novel Indian genotype of this organism, known as *T. mentagrophytes* ITS type VIII, was the source of the current *Tinea corporis* pandemic.

## CONCLUSION

According to research conducted in India, there may be regional variations in the distribution of dermatophyte species among patients. According to our research, *Tinea corporis* is primarily caused by *T. mentagrophytes*. This is India's first example of its kind. Numerous investigators have noted an epidemiological shift in fungus during the *Tinea corporis* pandemic. In the past, *T. rubrum* was the most common organism; however, in the current pandemic, *T. mentagrophytes* is the most common species. Recurrent and resistant *Tinea corporis* could have this as a potential cause.

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## Conflict of Interest

The authors declare no conflict of interest, financial or otherwise.

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